



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Wataru Ikeda, et al.

Serial No.: 10/573,173

Filed: March 22, 2006

For: RECORDING MEDIUM, PLAYBACK  
APPARATUS, PROGRAM, AND  
PLAYBACK METHOD

Patent Examiner: Not yet assigned

Group Art Unit: Not yet assigned

July 17, 2006

Costa Mesa, California 92626

**PETITION TO MAKE SPECIAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

In accordance with MPEP Section 708.02(viii), applicant hereby requests that the above-identified application be made special, and a fee required in accordance with 37 CFR §1.17(i) is submitted herewith.

It is believed that the attached Preliminary Amendment presents all the claims directed to a single invention. If, however, it is determined that the claims are not directed to a single invention, applicant hereby agrees to elect without traverse as a prerequisite to the granting of special status to a single invention.

The present application is derived from a Japanese Patent Cooperation Treaty Application and an international search has been made in the Japanese Patent Office in JP International Application PCT/JP2004/015339. A copy of the PCT International Search Report is believed to be of record, along with the references cited in the International Search Report.

Attached hereto is an English translation of the International Search Report. As can be appreciated, the references were not considered to be a bar to the patenting of the original Claims 1-7 presented herewith and translated from the Japanese application claims which were the focus of the International Search.

The present invention is involved in the display of images and the production of sound, for example, in a digital television system. The present invention recognizes that application controls are necessary and for example, reception apparatus for European Digital Broadcasting has the ability to store a greater amount of information which could provide more features such as editorial commentary and different foreign languages that can be utilized with movies. However, it is difficult to implement application control in a BD-ROM playback apparatus.

Basically, a digital broadcast can follow a single playback time axis. The progression of playback of disk content, however, not only follows a single playback time axis, but may also branch from one playback axis to another. In other words, the progression of playback of disk content can be a complicated matter, particularly when various options are provided to the user.

The present invention addresses issues that arise when the playback axis switches and the playback of disk content is following a predetermined playback time axis. Thus, the present invention is directed to a playback apparatus and a recording medium being executed by the playback apparatus for the controlling of the running of programs and in essence providing a virtual machine where the application is executable during the playback of, for example, a title such as a movie.

Thus, our independent claims deal with a title which includes a digital stream and a management table, with a program written in a virtual machine orientated programming language and the management table shows a correspondence of the application and a run

attribute of the application and the corresponding title, wherein the run attribute can control the application in a branch destination title if a branch between titles occur.

As can be appreciated from our specification, the term "title" incorporates the concept of a digital stream as a unit of branching and disk contents having one or more playback time axis. Being a branch unit, not a point on the playback time axis, each title is given a run attribute and, therefore, applications run based on a branch between titles.

The run attribute pertaining to the recording medium of the present invention shows how the application is to be controlled in a destination title in the event of a branch between titles. Therefore, redundant running of applications can be avoided when the progression of playback becomes complicated as the result of a branch between titles. Furthermore, resources can be used efficiently because titles are terminated when they are no longer required. This means that only applications that are necessary in a title are run, even if complicated switches between titles are made, and that resources can be managed without unnecessary consumption thereof. For this reason, even in the case of content that is recorded as a series consisting of a plurality of titles, the true worth of the contents can be exhibited when, for instance, various differing applications are run.

The following summarizes the cited references in the International Search Report relative to our invention.

1. Japanese Patent Application Publication No. 2002-369154 (Matsushita Electrical Industrial Co. Ltd.) discloses a technique for causing a playback apparatus to play back contents and execute a playback tool that executes an extended application that uses the contents.

This document discloses a playback tool for running an application, and fails to disclose the described feature of the present invention such as the claimed concept of defining a run

attribute with respect to each title where the application is controlled in a branch destination title or set forth in Claim 1. Furthermore, this document fails to enable the described feature to be arrived at, and cannot form a basis to deny the inventive step of the present invention.

2. Japanese Patent Application Publication No. 2003-249057 (Toshiba Corp.) discloses a technique for playing enhanced video contents in synchronization with video contents. A teaching of a technique for associating video contents with another data entity is found in this document. This document discloses a technique for associating an application and data, but fails to disclose the claimed feature of the present invention of defining a run attribute with respect to each title and how the application is to be controlled in a branch destination title if a branch between titles occurs.

3. Japanese Patent Application Publication No. H6-4166 (Okayama Nippon Denki Software KK) discloses a technique for improving a divided execution of a job after setting an operation start date and an operation completion date with respect to the job. Again the reference fails to disclose the claimed concept of defining a run attribute with respect to each title as set forth above.

4. Japanese Patent Application Publication No. H6-230946 (Fuji Xerox Co. Ltd.) discloses a technique for adding start conditions to a program and running the program. Although this document teaches the concept of adding conditions for starting a running of the program, this document does not form a basis for denying the novelty of the present invention associated with branching titles in the manner defined in our claims. This is because this document simply specifies conditions for starting the running of a program and fails to disclose the concept of defining a run attribute with respect to each title.

5. Japanese Patent Application Publication No. 2001-238161 (Sony Corp.) discloses a technique for occasionally transmitting from a reproducer 3 to an additional information input device 4 to identify the reproduction position information showing the position of an image under reproduction and material 1. The additional information is stored in an additional information server 5 in response to identification codes and reproduction position information. The additional information is provided but does not form a basis for denying the novelty of the present invention because this document discloses a technique for adding additional information which can be presented synchronously with information to be continuously reproduced. In other words, this document fails to disclose the concept of defining a run attribute with respect to each title.

6. Japanese Patent Application Publication No. H2002-57990 (NEC Corp.) discloses a technique for writing a synchronization time and a data name to be executed in a script 23, and performing synchronization processing of video data and synchronous data to be displayed in synchronization with the video data. It does not suggest defining a run attribute with respect to each title.

7. Japanese Patent Application Publication No. H10-63362 (NEC Corp.) discloses a technique with respect to a plurality of programs, for storing a corresponding relation of a program name, a resuming primary factor and a storing area in a table, and then at the time of resuming a processing, retrieving the table to recover hardware state data from the storing area to restart the execution of the program. This document simply discloses a technique for resuming and suspending each of a plurality of programs. It fails to disclose the concept of defining a run attribute with respect to each title.

8. Japanese Patent Application Publication No. 2004-206863 (Toshiba Corp.) discloses a technique for reproducing contents and reproducing extended information obtained through a communication line, in synchronism with the reproducing of the contents. It teaches a technique for reproducing extended information in synchronization with contents. In other words, this document fails to disclose the concept of defining a run attribute with respect to each title.

From the above comments, it can be seen that features of the present invention, such as the concept of defining a run attribute with respect to each title, is neither disclosed nor suggested by any of the above documents alone or in combination.

In view of the search results and the current claims, the applicant is of the opinion that the present invention meets the requirements for patentability. Consequently, the applicant requests that the present application be made special in order to promptly obtain patent rights.

If there are any questions with regards to this matter, the undersigned attorney can be reached at the phone number listed below.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on July 17, 2006.

By: Sharon Farnus



Signature

Dated: July 17, 2006

Very truly yours,

**SNELL & WILMER L.L.P.**



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Joseph W. Price  
Registration No. 25,124  
600 Anton Boulevard  
Suite 1400  
Costa Mesa, CA 92626  
Telephone: (714) 427-7420  
Facsimile: (714) 427-7799

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/015339

- A. CLASSIFICATION OF SUBJECT MATTER  
 Int.C1<sup>7</sup> G11B27/00, G11B20/10, G11B20/12, G11B27/10, G06F19/00,  
 G06F9/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
 Int.C1<sup>7</sup> G11B27/00-27/06, G11B20/10, G11B20/12, G11B27/10, G06F19/00,  
 G06F9/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2005  
 Kokai Jitsuyo Shinan Koho 1971-2005 Toroku Jitsuyo Shinan Koho 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|-----------|---|-----------------------|
| A         | JP 2002-369154 A (Matsushita Electric Industrial Co., Ltd.),<br>20 December, 2002 (20.12.02),<br>Par. Nos. [0035] to [0207]; Figs. 1 to 39<br>& WO 02/082810 A1 & EP 1381232 A1<br>& US 2002/0194618 A1 | 1-7                   |
| A         | JP 2003-249057 A (Toshiba Corp.),<br>05 September, 2003 (05.09.03),<br>Par. Nos. [0020] to [0303]; Figs. 1 to 33<br>& EP 1357749 A1 & US 2003/0161615 A1  | 1-7                   |
| A         | JP 6-4166 A (Okayama Nippon Denki Software Kabushiki Kaisha),<br>14 January, 1994 (14.01.94),<br>Par. Nos. [0002] to [0027]; Figs. 1 to 2<br>(Family: none)   | 1-7                   |

 Further documents are listed in the continuation of Box C. See patent family annex.

|  |  |
|--|--|
| * Special categories of cited documents: |  |
| "A"                                      | document defining the general state of the art which is not considered to be of particular relevance   |
| "B"                                      | earlier application or patent but published on or after the international filing date  |
| "L"                                      | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  |
| "O"                                      | document referring to an oral disclosure, use, exhibition or other means   |
| "P"                                      | document published prior to the international filing date but later than the priority date claimed   |
| "T"                                      | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| "X"                                      | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
| "Y"                                      | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "&"                                      | document member of the same patent family  |

Date of the actual completion of the international search  
07 January, 2005 (07.01.05)Date of mailing of the international search report  
25 January, 2005 (25.01.05)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/015339

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|-----------|---|-----------------------|
| A         | JP 6-230946 A (Fuji Xerox Co., Ltd.),<br>19 August, 1994 (19.08.94),<br>Par. Nos. [0014] to [0043]; Figs. 4 to 12<br>(Family: none) | 1-7                   |
| A         | JP 2001-238161 A (Sony Corp.),<br>31 August, 2001 (31.08.01),<br>Full text; all drawings<br>(Family: none)                          | 1-7                   |
| A         | JP 2002-57990 A (NEC Corp.),<br>22 February, 2002 (22.02.02),<br>Full text; all drawings<br>& US 2002/0021887 A1                    | 1-7                   |
| A         | JP 10-63362 A (NEC Corp.),<br>06 March, 1998 (06.03.98),<br>Par. Nos. [0017] to [0052]; Figs. 4 to 7<br>(Family: none)              | 5                     |
| P,A       | JP 2004-206863 A (Toshiba Corp.),<br>22 July, 2004 (22.07.04),<br>Full text; all drawings<br>(Family: none)                         | 1-7                   |

**PATENT COOPERATION TREATY**

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

**PCT**

**TRANSLATION**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

(PCT Rule 43bis.1)

|   |   |  |
|---|---|--|
|   |   | Date of mailing<br>(day/month/year)<br><b>25.01.2005</b> |
| Applicant's or agent's file reference<br><b>P36309P0-522</b>  |   | FOR FURTHER ACTION<br>See paragraph 2 below              |
| International application No.<br><b>PCT/JP2004/015339</b>   | International filing date (day/month/year)<br><b>12.10.2004</b> | Priority date (day/month/year)<br><b>10.10.2003</b>      |
| International Patent Classification (IPC) or both national classification and IPC<br><b>G11B27/00, G11B20/10, G11B20/12, G11B27/10, G06F19/00, G06F9/06</b> |   |  |
| Applicant<br><b>MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.</b>  |   |  |

|   |
|---|
| <p>1. This opinion contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul> <p>2. <b>FURTHER ACTION</b></p> <p>If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.</p> <p>For further options, see Form PCT/ISA/220.</p> <p>3. For further details, see notes to Form PCT/ISA/220.</p> |
|---|

|  |                    |
|--|--------------------|
| Name and mailing address of the ISA/JP | Authorized officer |
| Facsimile No.                          | Telephone No.      |

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/015339

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
 a sequence listing  
 table(s) related to the sequence listing
  - b. format of material  
 in written format  
 in computer readable form
  - c. time of filing/furnishing  
 contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

|                               |
|-------------------------------|
| International application No. |
| PCT/JP2004/015339             |

|   |  |             |        |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
|---|--|-------------|--------|-----|-----|--|--------|--|----|---------------------|--------|-----|-----|--|--------|--|----|-------------------------------|--------|-----|-----|--|--------|--|----|
| Box No. V   | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |             |        |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
| <p><b>1. Statement</b></p> <table> <tr> <td align="left">Novelty (N)</td> <td align="left">Claims</td> <td align="center">1-7</td> <td align="right">YES</td> </tr> <tr> <td></td> <td align="left">Claims</td> <td align="center"></td> <td align="right">NO</td> </tr> <tr> <td align="left">Inventive step (IS)</td> <td align="left">Claims</td> <td align="center">1-7</td> <td align="right">YES</td> </tr> <tr> <td></td> <td align="left">Claims</td> <td align="center"></td> <td align="right">NO</td> </tr> <tr> <td align="left">Industrial applicability (IA)</td> <td align="left">Claims</td> <td align="center">1-7</td> <td align="right">YES</td> </tr> <tr> <td></td> <td align="left">Claims</td> <td align="center"></td> <td align="right">NO</td> </tr> </table> |  | Novelty (N) | Claims | 1-7 | YES |  | Claims |  | NO | Inventive step (IS) | Claims | 1-7 | YES |  | Claims |  | NO | Industrial applicability (IA) | Claims | 1-7 | YES |  | Claims |  | NO |
| Novelty (N)   | Claims   | 1-7         | YES    |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
|   | Claims   |             | NO     |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
| Inventive step (IS)   | Claims   | 1-7         | YES    |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
|   | Claims   |             | NO     |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
| Industrial applicability (IA)   | Claims   | 1-7         | YES    |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
|   | Claims   |             | NO     |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |
| <p><b>2. Citations and explanations:</b></p> <p>The configuration of the inventions set forth in claims 1 to 7 wherein a management table indicates correlation between an application and startup attributes of the application present in a title corresponding thereto is not disclosed in any of the documents cited in the international search report, nor would said configuration be obvious to a person skilled in the art.</p>  |  |             |        |     |     |  |        |  |    |                     |        |     |     |  |        |  |    |                               |        |     |     |  |        |  |    |